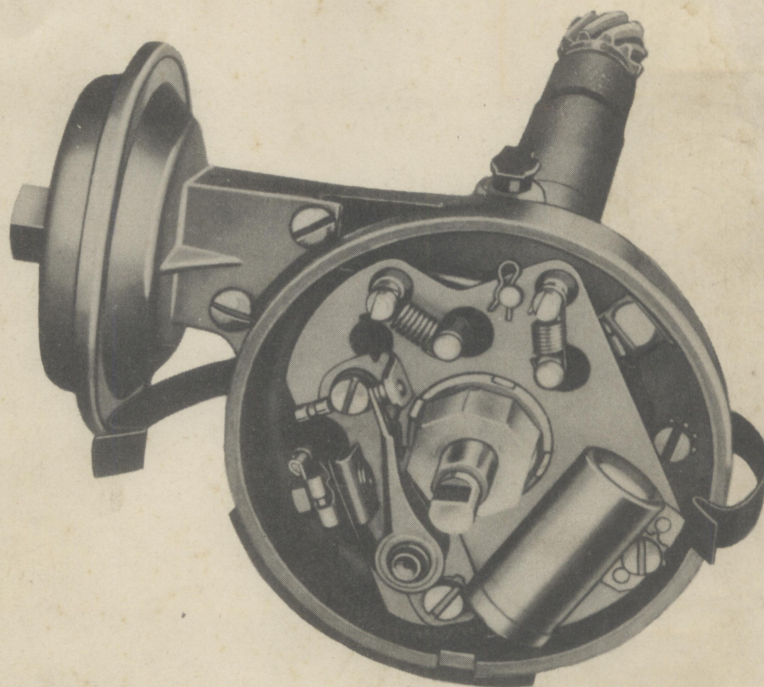


# **HOLLEY** *Carburetor Co.* **SERVICE MANUAL**

JANUARY 16, 1950

**DISTRIBUTOR MODELS**  
1201, 1209, 1214, 1215 and 1219



**PRESSURE DISTRIBUTOR**

**HOLLEY CARBURETOR COMPANY**  
5930 VANCOUVER . . . DETROIT 4, MICHIGAN, U. S. A.



SERVICE MANUAL

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PRESSURE DISTRIBUTION

HOLLEY CARBURETOR COMPANY  
1230 VANCOUVER



# PRESSURE DISTRIBUTOR MANUAL

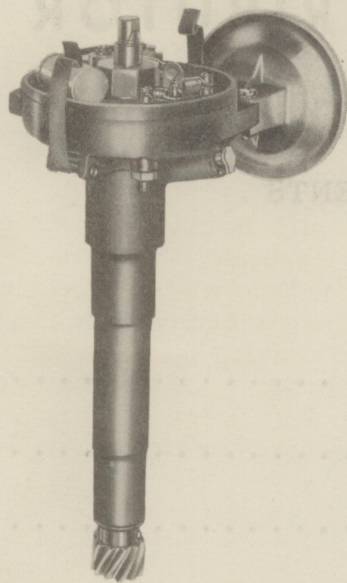
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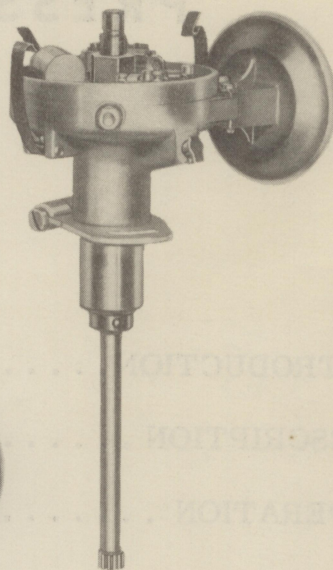




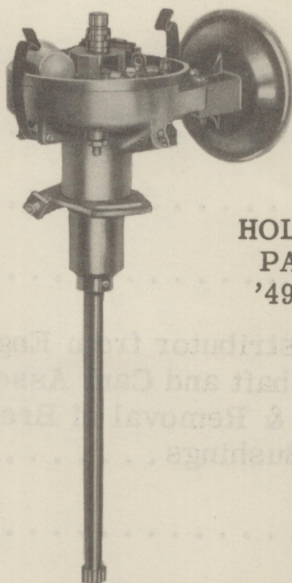
## PRESSURE DISTRIBUTOR MANUAL



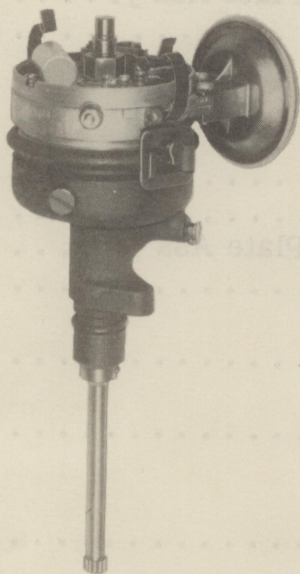
HOLLEY MODEL 1201  
PART NO. D-38060  
'49 & '50 FORD, MERCURY V-8



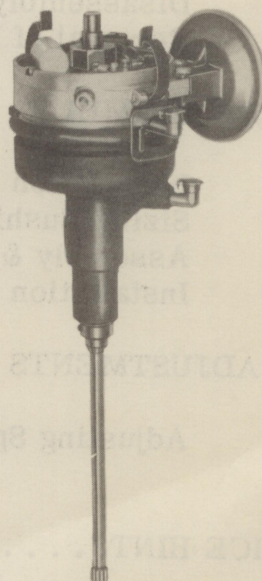
HOLLEY MODEL 1209  
PART NO. D-38092  
'49 & '50 FORD SIX



HOLLEY MODEL 1214  
PART NO. D-38223  
'50 LINCOLN



HOLLEY MODEL 1215  
PART NO. D-38151  
'49-'50 FORD SIX BUS



HOLLEY MODEL 1219  
PART NO. D-38292  
'49-'50 FORD F-7 & F-8 TRUCKS

Illustrated above are the five distributors covered in this manual.  
(Applications listed are current as of January 16, 1950.)



## INTRODUCTION

The Holley pressure distributor is the outgrowth of many years of research and experiment for a single ignition unit that provides the proper spark advance under all operating conditions of speed and load.

The basic difference between the Holley pressure distributor and conventional distributors lies in the method of controlling the degree of spark advance for the various engine operating conditions. Conventional distributors use a centrifugal type of advance

mechanism, either alone or in combination with a vacuum operated auxiliary advance mechanism which is piped to the carburetor. The pressure distributor combines the functions of the centrifugal advance mechanism and the vacuum advance mechanism in one diaphragm type controlling unit. This results in a considerable saving in parts, eliminates spark "fanning", and provides a positive control over the degree of spark advance in accordance with engine requirements.

## DESCRIPTION

The Holley pressure distributor consists of four basic units or assemblies: the diaphragm assembly, the breaker plate assembly, the distributor shaft and cam assembly, and the distributor base.

On governor equipped engines, the distributor base houses the governor rotor unit.

The diaphragm assembly is a factory sealed unit. No further disassembly should be attempted after it has been detached from the distributor.

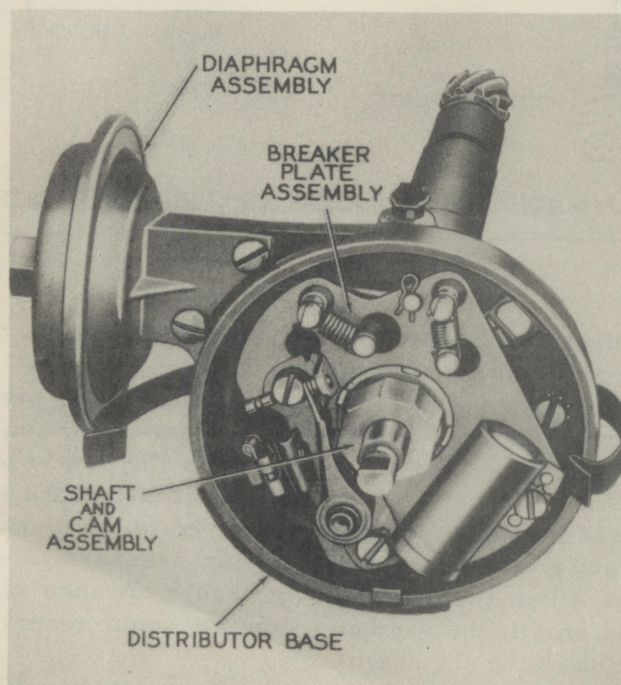
The breaker plate assembly has been designed with particular attention to ease of adjustment and replacement of important parts. The condenser is easily accessible when the distributor cap is removed. The breaker arm and bracket assembly has been designed as a complete factory assembled unit consisting of the breaker arm and the stationary breaker point, including the breaker arm pivot pin. Replacement of this complete assembly in-

sures accurate alignment of the breaker points and includes a new breaker arm pivot pin which is not readily replaceable on conventional distributors. A unique means has also

been provided for adjusting the breaker points. A notch in the adjustable breaker point bracket corresponds with a similar notch in a hole in the breaker plate in such a way that the blade of a screwdriver will fit in these two notches and act as a lever. Thus, the stationary breaker point may be precisely moved with one hand while the clamping screw is loosened and tightened with the other hand.

A large size oil retaining type bushing supports the breaker plate assembly and the distributor shaft, in-

suring perfect concentricity and alignment between the cam and the breaker arm. With this type bushing, long service life with a minimum of wear may be expected.





## OPERATION

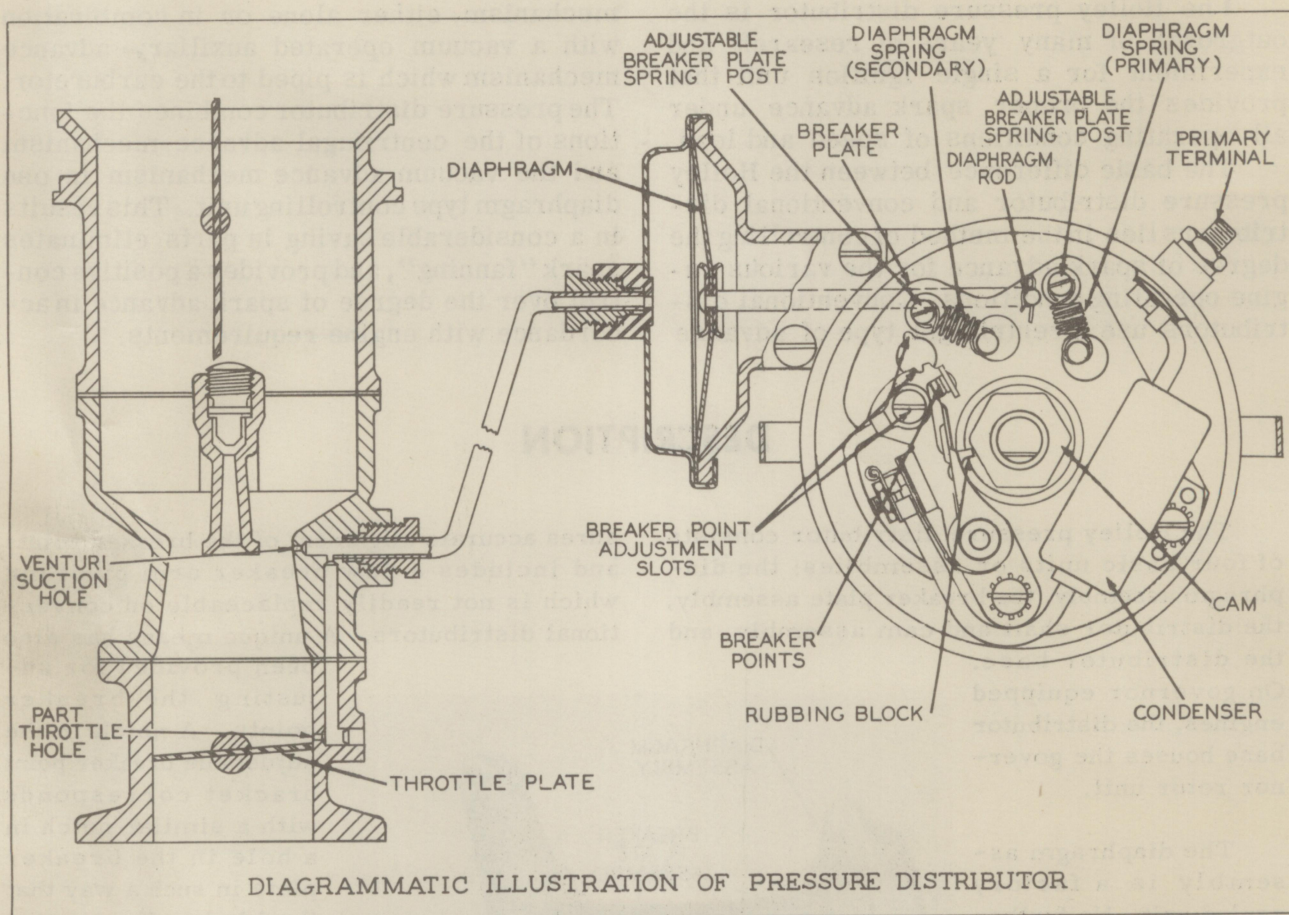


Fig. 1

The two pressure distributor vacuum holes (part throttle hole and venturi suction hole) in the carburetor involve no additional moving parts and ordinarily function without attention for the life of the carburetor.

The part throttle hole is located a precise distance above the throttle plate. During part throttle operation, when the airflow through the carburetor is small, the vacuum at the part throttle hole actuates the diaphragm. As the throttle is opened and more air flows through the carburetor, the vacuum at the venturi suction hole, located at the throat of the main venturi, becomes greater than the vacuum at the part throttle hole. Therefore, the venturi suction hole provides the actuating vacuum for the diaphragm during wide open

throttle operation.

Since the two pressure distributor vacuum holes are interconnected, the total pressure across the two holes indicates at all times the operation of the engine. The total pressure is piped to the diaphragm which is connected to the breaker plate and controls the degree of spark advance strictly in accordance with engine requirements.

Two closely calibrated diaphragm springs are hooked between adjustable breaker plate spring posts and stationary spring posts mounted on the distributor housing. The tension on the diaphragm springs holds the breaker plate in the full retard position when there is no vacuum applied to the diaphragm.



## OVERHAUL

## DISASSEMBLY

Before removing the distributor from the engine, unsnap the two bail clips and remove the cap. Scribe a mark on the distributor housing to indicate the position of the rotor for reference in reinstalling the distributor on the engine.

NOTE: Special tools referred to in the following sections may be procured from:

Manzel, Inc.  
315 Babcock St.  
Buffalo, N.Y.

K. R. Wilson  
215 Main St.  
Buffalo, N.Y.

## REMOVING DISTRIBUTOR FROM ENGINE

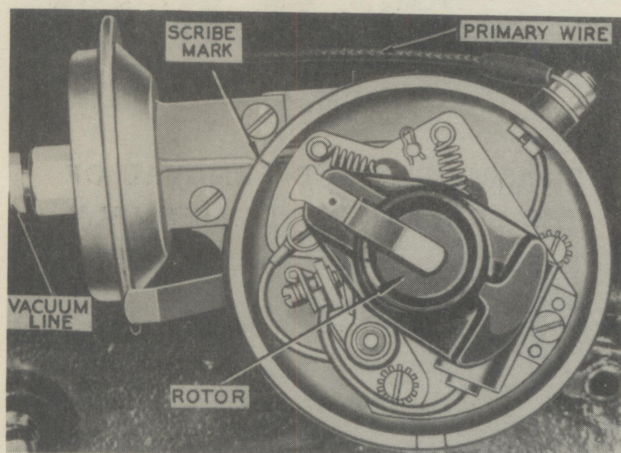


Fig. 2

Models 1201, 1209, and 1214

1. Disconnect the primary wire and vacuum line (Fig. 2). Loosen the distributor clamp lock screw (Model 1201) or remove the hold down bolt (Model 1209 and 1214).

2. Lift the distributor from the engine.

Models 1215 and 1219

Governor Equipped Distributors

1. Disconnect the primary wire and vacuum line. Remove the adjusting clamp screw, nut, and V-clamps (Fig. 3).

2. Lift the distributor housing from the distributor base which contains the governor valve.

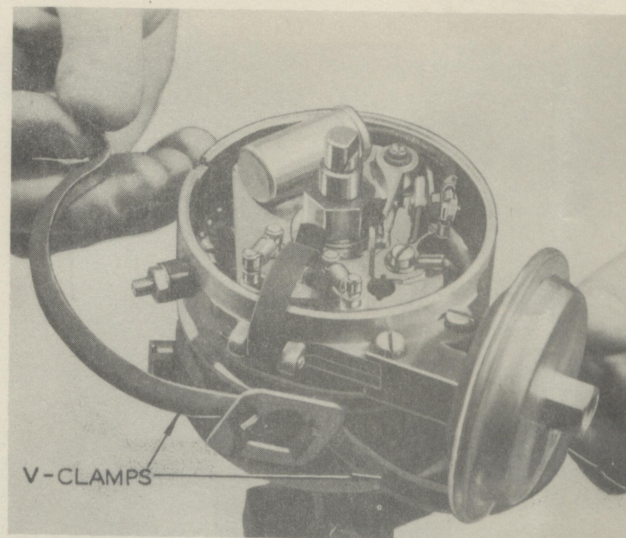


Fig. 3

## REMOVAL OF SHAFT &amp; CAM ASSEMBLY

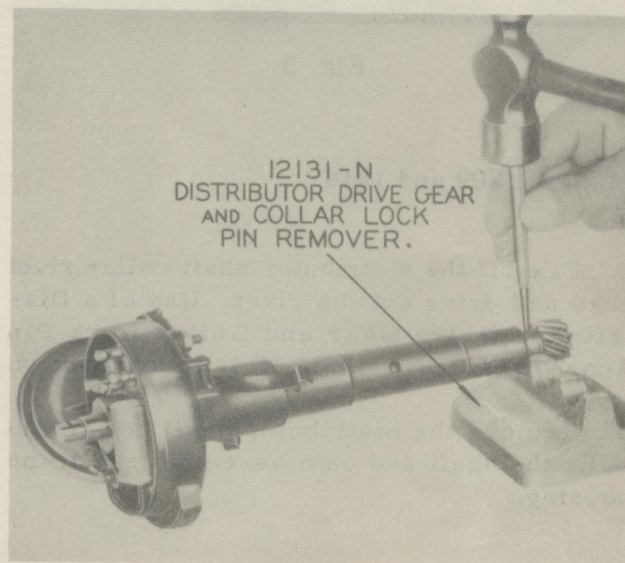


Fig. 4

Model 1201

1. File off the drive gear rivet head and drive out the rivet. Use of a Distributor Drive Gear and Collar Lock Pin Remover (Tool No. 12131-N) is recommended (Fig. 4).



2. Remove the drive gear and thrust washer from the distributor shaft. Use of a Distributor Drive Gear Remover (Tool No. 12390-N) is recommended (Fig. 5). The shaft and cam assembly is now free to be removed.

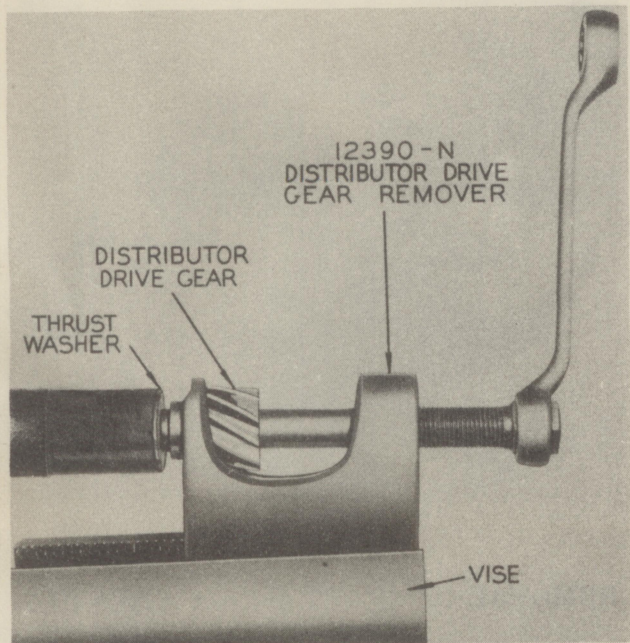


Fig. 5

## Models 1209 and 1214

1. File off the distributor shaft collar rivet head and drive out the rivet. Use of a Distributor Drive Gear and Collar Lock Pin Remover (Tool No. 12131-N) is recommended.
2. Remove the distributor shaft collar and slide the shaft and cam assembly out of the housing.

## Models 1215 and 1219

1. Remove the screw, washer, and drive plate from the underside of the distributor housing (Fig. 6), then pull out the shaft and cam assembly.

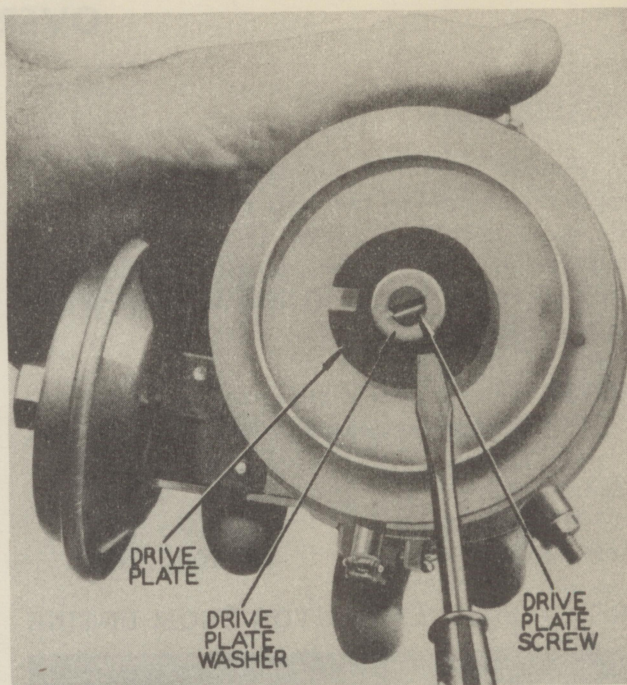


Fig. 6

## DISASSEMBLY AND REMOVAL OF THE BREAKER PLATE ASSEMBLY

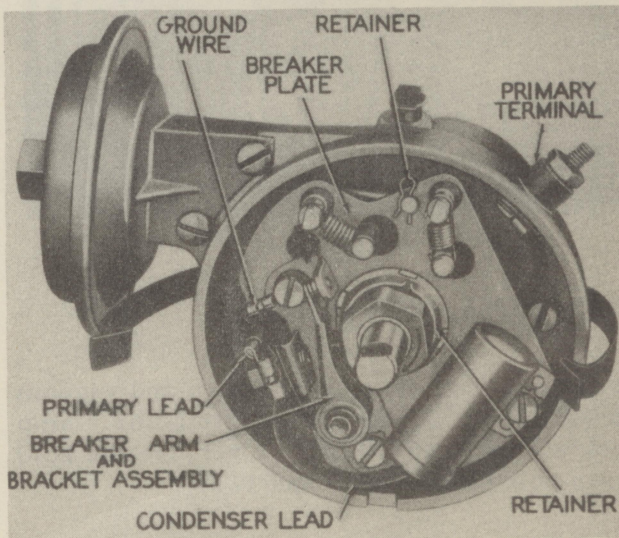


Fig. 7

## All Models

1. Remove the two screws and lockwashers holding the breaker arm and bracket assembly and the ground wire to the breaker plate.



2. Lift the breaker arm and bracket assembly off the breaker plate and remove the primary lead and condenser lead to the breaker arm and bracket assembly. Replace the nut and lockwasher on the primary lead and condenser lead post to prevent their loss.

3. Remove the condenser bracket screw and lockwasher and condenser.

4. Remove the diaphragm rod retainer and push the rod end out of the hole in the breaker plate.

5. Remove the two diaphragm screws and lockwashers and slide the diaphragm unit off the distributor housing.

**CAUTION:** Use care in removing the diaphragm to prevent the diaphragm rod from catching on the interior of the distributor. This may damage or tear the neoprene diaphragm, requiring a replacement of the entire diaphragm assembly.

6. Remove the primary and secondary diaphragm springs by first turning the breaker plate spring posts to a position nearest the stationary posts to release the tension on the springs (tag each spring to identify the post from which it was removed). Use of a Distributor Adjusting Wrench (Tool No. 12150-N) is recommended (see Fig. 15 on Page 10).

**CAUTION:** Do not damage, bend, stretch or otherwise distort the primary and secondary diaphragm springs during disassembly and installation or difficulty will be encountered in obtaining the correct spark advance.

7. Remove the breaker plate retainer and lift the breaker plate off the base bushing in the distributor housing.

8. Disconnect and remove the ground wire attached to the interior of the distributor housing.

9. Disconnect the primary wire by removing the nut and washer from the terminal and removing the terminal from the distributor housing.

**NOTE:** Do not lose the flat insulator located between the inside of the distributor housing and the primary lead.

### REMOVAL OF BUSHINGS

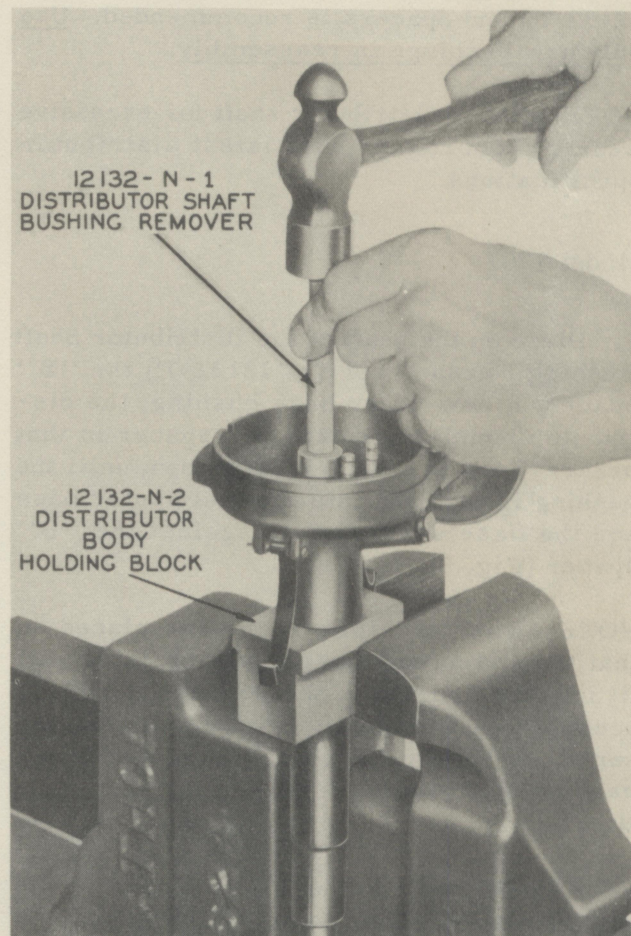


Fig. 8

### Models 1201, 1209, and 1214

The upper and lower base bushings may be removed from these distributors by driving them out with a Distributor Shaft Bushing Remover (Tool No. 12132-N-1) and a Distributor Body Holding Block (Tool No. 12132-N-2).

### Models 1215 and 1219

These distributors have only one base bushing in the distributor housing and it is removed the same way.



## REASSEMBLY

### Installation of New Bushings

The oilite bushings of the pressure distributor must be pressed into the housing. If an arbor press is not available, use of a Distributor Shaft Bushing Press (Tool No. 12132-P) and Spacers is recommended. Use only new bushings in reassembly.

**NOTE:** Check distributor shaft for excessive wear in accordance with latest distributor specifications.

#### Model 1201

1. Place on the shaft of the Distributor Shaft Bushing Press (Tool No. 12132-P) the "B" spacer, a new lower base bushing, the distributor housing and the "A" spacer in that order. Turn the "T" wrench down until the bushing is pressed into the distributor base and the base seats firmly against the "B" spacer (Fig. 9).

**NOTE:** The "A" spacer must be placed so that the end having the projecting guide will fit into the housing in the position normally occupied by the upper base bushing. This serves as an aligning guide for proper lower base bushing installation.

2. Remove the "T" wrench and "A" spacer. Then place the upper bushing, with the snap ring end up, on the distributor base. Place the "A" spacer over the bushing, (reverse position from the previous operation) (Fig. 10) and turn the "T" wrench down until the "A" spacer seats firmly against the distributor base, thus completing the installation of the new upper base bushing.

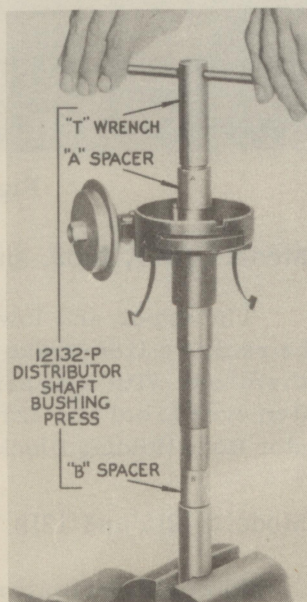


Fig. 9

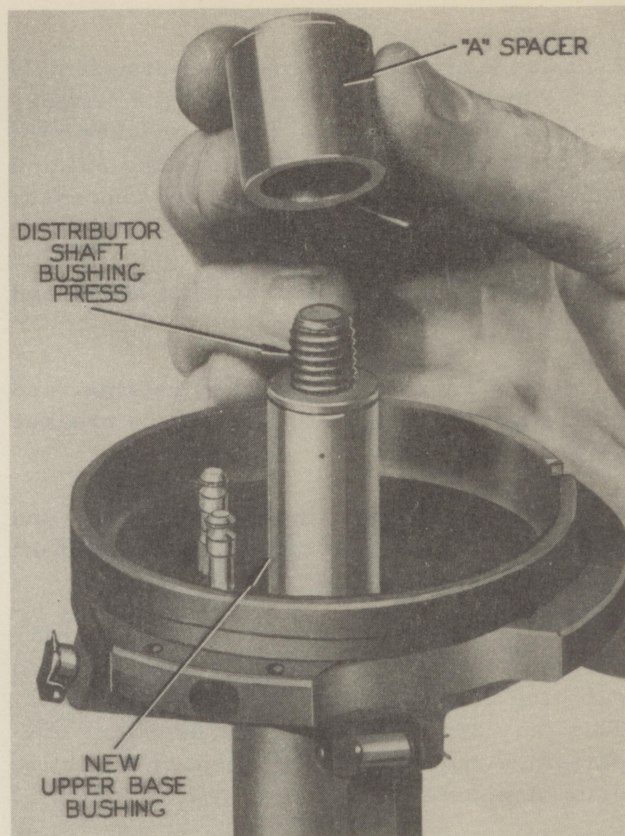


Fig. 10

#### Models 1209 and 1214

1. Place on the shaft of the Distributor Shaft Bushing Press (Tool No. 12132-P) the "B" spacer, "C" spacer, a new lower base bushing, the distributor base and the "A" spacer with the projecting guide fitting into the distributor base.

2. Turn the "T" wrench down until the distributor base seats firmly against the "C" spacer. This presses the lower base bushing in its proper position.

3. To install the upper base bushing, remove the "T" wrench and the "A" spacer. Place the upper base bushing (snap ring end up) on the shaft and place the "A" spacer over the bushing (Fig. 10). Turn the "T" wrench down until the "A" spacer seats firmly against the distributor base.



## Models 1215 and 1219

On governor equipped distributors the distributor housing requires only one bushing.

1. To install the new bushing, place on the shaft of the Distributor Shaft Bushing Press (Tool No. 12132-P) the "B" spacer, "C" spacer, "D" spacer, the distributor housing, the bushing (snap ring end up) and the "A" spacer over the bushing.
2. Turn the "T" wrench down until the "A" spacer seats firmly against the distributor housing, thus pressing bushing in its proper position.

## SIZING BUSHINGS

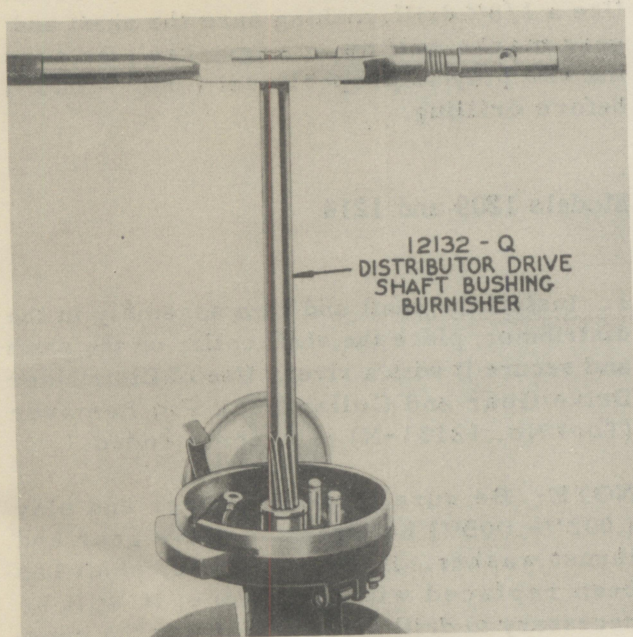


Fig. 11

## All Models

1. Size the bushings with a Distributor Drive Shaft Bushing Burnisher (Tool No. 12132-Q) (Fig. 11).

**CAUTION:** These bushings are made of powdered bronze and should never be reamed.

ASSEMBLY AND INSTALLATION  
OF BREAKER PLATE ASSEMBLY

## All Models

1. Install ground wire, primary wire and primary terminal housing (Fig. 12).
2. Install the two diaphragm springs on the breaker plate posts. The primary (light) spring goes on the post farthest from the diaphragm, and the secondary (heavy) spring goes on the post nearest the diaphragm. Place the breaker plate in position in the housing and secure the plate with the snap ring retainer.

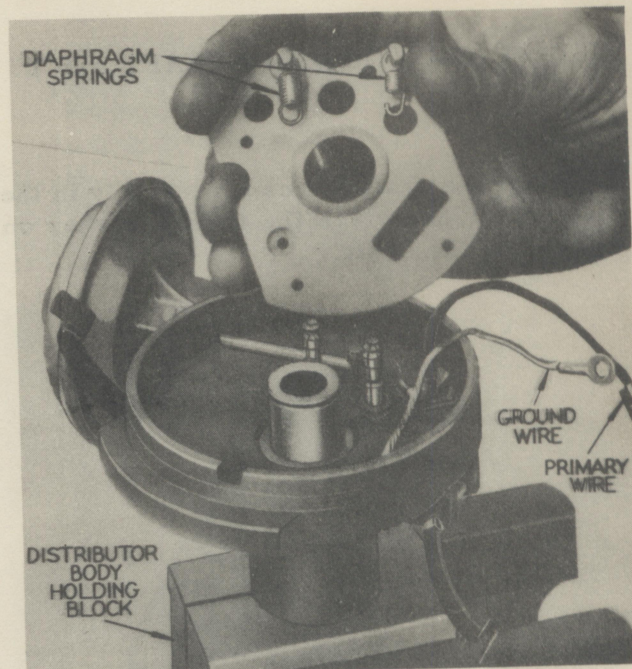


Fig. 12

**NOTE:** Check to make sure that the breaker plate is perfectly free on the bushing.

3. Place the condenser lead, primary lead, lockwasher and nut on the primary terminal of the breaker arm and bracket assembly and tighten the nut securely.
4. Install the condenser and condenser holding screw on the breaker plate and tighten the nut securely.



5. Place the breaker arm and bracket assembly in position on the breaker plate, being sure that the pivot pin goes into the pivot hole in the breaker plate. Assemble the ground wire and screw at the adjustment end of the breaker arm and bracket assembly and the screw and lockwasher at the pivot end of the breaker arm and bracket assembly.

6. Install the diaphragm assembly on the distributor housing with the two diaphragm screws and lockwashers.

7. Attach the two diaphragm springs to the stationary base posts. Insert the diaphragm rod end in the breaker plate and secure it with the retainer.

## INSTALLATION OF CAM & SHAFT ASS'Y

### Model 1201

1. Place the shaft and cam assembly in the distributor and place the thrust washer on the end of the shaft.

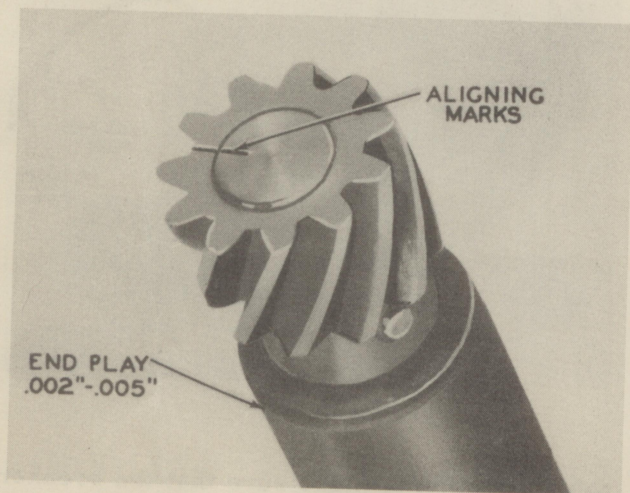


Fig. 13

2. The use of an arbor press is recommended to press the distributor drive gear on the shaft, but if none is available the following procedure should be followed:

(a) Invert the distributor and brace the rotor end of the shaft on a block of wood.

(b) Place the distributor drive gear on the end of the shaft, aligning the mark on the gear with the mark on the end of the shaft.

(c) Hold another block of wood evenly over the gear and drive the gear on the shaft with a mallet (Fig. 13).

3. Place the distributor on the Distributor Drive Gear and Collar Lock Pin Remover (Tool No. 12131-N). If the holes in the gear and shaft do not line up, a drift punch may be used to align them. Install the drive gear rivet and peen the end of the rivet securely.

NOTE: Be sure there is proper end play (.002\"-.005\") between the drive gear and thrust washer. If the distributor shaft has been replaced with a new one, it will be necessary to drill the new shaft for the rivet. Use a 1/8\" drill, making sure the shaft and gear marks will be in alignment. Be sure the end play is properly set (.002\"-.005\") before drilling.

### Models 1209 and 1214

1. Install the shaft and cam assembly in the distributor; place the shaft collar on the shaft and secure it with a rivet. Use of Distributor Drive Gear and Collar Lock Pin Remover (Tool No. 12131-N) is recommended.

NOTE: Be sure there is proper end play (.002\"-.005\") between the drive gear and thrust washer. If the distributor shaft has been replaced with a new one, it will be necessary to drill the new shaft for the rivet. Use a 1/8\" drill, making sure the end play is properly set (.002\"-.005\") before drilling.

### Models 1215 and 1219

1. Place the shaft and cam assembly in the distributor and assemble the drive plate to the bottom of the shaft. Then secure the plate with the drive plate screw and lockwasher (Fig. 6).



## ADJUSTMENTS

## Adjusting Spark Advance

1. Mount the pressure distributor on a distributor stroboscope and adjust the breaker point gap to the proper specifications.

NOTE: Breaker point gap is checked with cam set so that the breaker arm rubbing block rests on the highest point of the cam lobe.

2. Check the breaker arm spring tension with a spring scale. It should be 17-20 ozs. (Fig. 14). If adjustment of spring tension is necessary, loosen the first breaker arm spring stud nut which secures the condenser wire and primary wire. Loosen the breaker arm spring stud nut to allow the spring to ride back and forth on the breaker arm post through the adjustment slot in the spring. The tension can then be increased by tightening the spring and decreased by loosening the spring. When proper tension is obtained, tighten the two breaker arm spring stud nuts.

3. Set distributor speed at 200 rpm. Holding the breaker plate in the full retard position, set the spark at the zero point on the degree scale. Tighten down the distributor holding clamp.

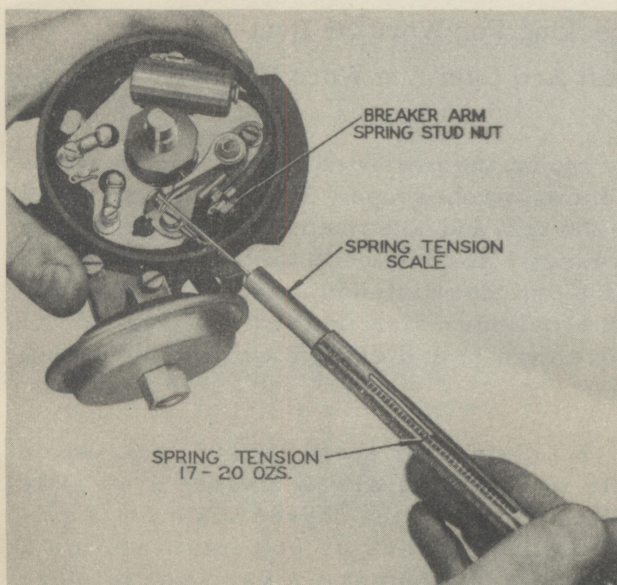


Fig. 14

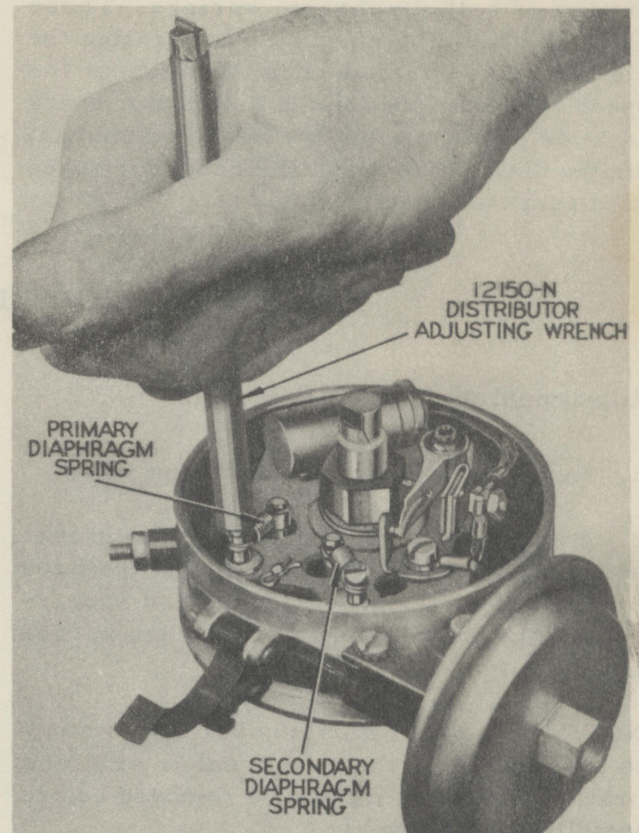


Fig. 15

4. Release the tension on the primary and secondary diaphragm springs by turning the breaker plate spring posts to the position nearest the stationary base posts (Fig. 15).

NOTE: When the breaker plate is fully retarded, be sure the secondary diaphragm spring (heavy) is free.

5. First adjust the primary spring to the proper specifications by setting the distributor speed as indicated for primary spring adjustment and applying the required vacuum. Then turn the adjustable diaphragm spring post until the spark is properly advanced. The Distributor Adjusting Wrench (Tool No. 12150-N) is recommended for this operation.

6. Adjust the secondary diaphragm spring the same way using the proper specifications for secondary spring adjustment.



These adjustments provide for an initial setting of both diaphragm springs. These settings should be checked by operating the distributor at various rpm throughout the speed range included in the distributor spark advance curve. Apply the required vacuum for the distributor speed and check for specified spark advance.

If the spark advance does not come up to specifications in the lower operating range, the light or primary diaphragm spring may be faulty and should be replaced.

If the spark advance does not come up to specifications in the higher operating range, the heavy or secondary diaphragm spring may be faulty and should be replaced.

## SERVICE HINTS

### Adjustment of Breaker Point Gap

1. Remove the distributor cap and rotor.
2. Replace the breaker arm and bracket assembly if the contact are pitted, oxidized or oily and dirty. (A white, frosted appearance of the points shows that they are in good condition.)

NOTE: If a paper part number tag is stuck to the bottom of the new breaker arm and bracket assembly, it must be removed before installing the assembly.

4. Loosen the breaker arm and bracket assembly screws and insert a screw driver blade or the adjusting blade of Tool No. 12150-N in the adjusting slots and turn the blade to get the correct gap (Fig. 16). Then, tighten the breaker arm and bracket assembly screws.

NOTE: Loosen the screws only slightly before adjusting. They should still provide enough tension on the breaker arm and bracket assembly so that the assembly will not be moved from the proper setting when tightening the screws.

CAUTION: Use care not to bend the breaker arm when loosening and tightening the breaker arm and bracket assembly screws.

### Checking For Worn Or Bent

#### Shaft And Cam And Worn Bushings

1. Mount the pressure distributor on a distributor stroboscope. Set distributor speed at 200 rpm and note whether the arrow flashes at exactly 45° intervals on the degree scale for 8 cylinder distributors and 60° intervals for 6 cylinder distributors. A variation of more than 1° indicates a worn cam or bent shaft.

2. Set distributor speed at 2000 rpm. Again note whether the arrow flashes at exactly 45° intervals on the degree scale for 8 cylinder distributors or 60° intervals for 6 cylinder distributors. A variation of more than 1° indicates a worn shaft or worn bushings.

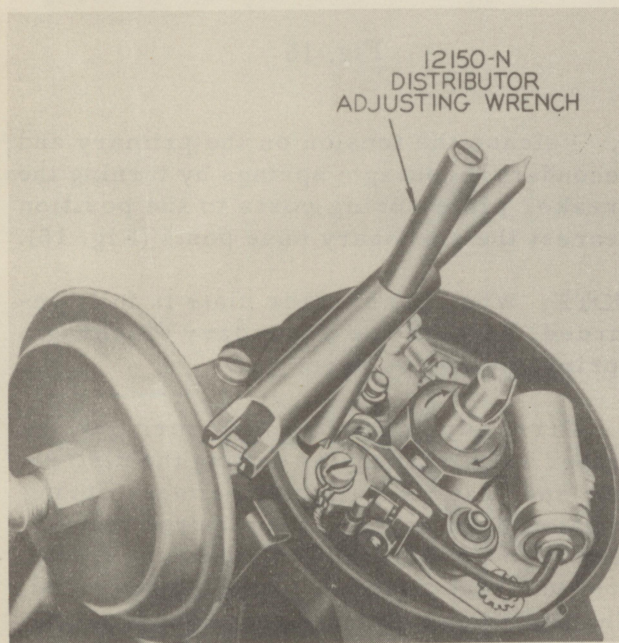


Fig. 16

3. If the assembly has been replaced or needs adjustment, crank the engine until the rubbing block is on top of a cam lobe.



## INSTALLING DISTRIBUTOR IN ENGINE

**CAUTION:** Engine must not be rotated from the position it was in when the distributor was removed.

## Models 1201, 1209, and 1214

1. Turn rotor until it is aligned with the scribe mark on the housing (Fig. 2).

**NOTE:** On model 1201 only, set rotor about 30° (approximately 1 inch on the rim of the housing) from the scribe mark in a counter-clockwise direction. This allows for the rotation caused when the helical distributor drive gear slides in place.

2. Place the distributor in the correct position in the engine and check to be sure that the rotor and scribe mark are still aligned. If not, pull distributor out only enough to rotate the rotor, make necessary corrections, and slide distributor back in place.

3. Install the distributor clamp and lock screw (model 1201) or hold down bolt (model 1209 and 1214) snugly but do not tighten. Install the primary wire on the terminal. Connect the vacuum line to the diaphragm but do not tighten the fitting until the timing has been set.

## Models 1215 and 1219

1. Place the distributor housing on the distributor base which contains the governor valve. Turn the rotor until the notch in the distributor drive plate (Fig. 6) engages the pin on the governor valve.
2. Install the V-clamps (Fig. 3). Install the adjusting clamp screw snugly but do not tighten.
3. Rotate the distributor housing until the scribe mark is lined up with the rotor. Install the primary wire and connect the vacuum line to the diaphragm but do not tighten the fitting until the timing has been set.

## ADJUSTING TIMING

## All Models

1. Install the distributor cap and snap the two bail clips in place, securing the cap.

**CAUTION:** Be sure the distributor cap is properly installed with all mating surfaces flush, not tilted or tipped. Improper installation of the cap may result in a broken rotor when attempting to start engine.

2. Connect timing light to #1 or #6 cylinder, start engine and set timing according to the vehicle manufacturer's latest specifications. Turn distributor housing counter-clockwise to advance the spark and clockwise to retard the spark.
3. When timing is properly set, tighten the distributor clamp lock screw (model 1201), hold down bolt (models 1209 and 1214), or adjusting clamp screw (models 1215 and 1219). Tighten the vacuum line fitting to the diaphragm.
4. Recheck timing with the timing light to insure that the setting has not been changed.

## CHECKING FOR DEFECTIVE DIAPHRAGM

## All Models

The diaphragm of a properly timed distributor may be checked without removing the distributor from the engine.

1. Check the condition of the vacuum line from the carburetor to the diaphragm. Be sure the fittings at both ends of the vacuum line are tight.
2. Connect the timing light to the #1 or #6 cylinder, and start the engine. At idle, the light should illuminate the mark at the pointer.
3. Slowly accelerate the engine to about 2000 rpm. If the mark stays in place, the diaphragm is defective and the entire diaphragm assembly should be replaced.



